

REMARKS

Claims 1-20 will be pending upon entry of the present amendment. Claims 1-7, 10-11 and 13 have been amended. The amendments are intended to address formatting and typographical issues. Applicants respectfully submit that claims 1-7, 10-11 and 13 were allowable prior to the amendments. Claims 14-20 are new.

As an initial matter, Applicants note that the first and last names of the first inventor of the present application are reversed. The first inventor's last name is GEORGE. The first inventor's first name is Sapna. Applicants are concurrently filing an Application Data Statement to correct this error.

The Examiner objected to the form of claim 7. Claim 7 has been amended to address the Examiner's objection.

The Examiner rejected claims 1-6 and 11 under 35 U.S.C. § 103(a) as obvious over European Patent Application No. 0564089A1 (hereinafter "de Sousa") in view of European Patent Application No. 0506111A2 (hereinafter "Uramoto"). Applicants respectfully traverse the Examiner's contention that claims 1-6 and 11 are rendered obvious by de Sousa in view of Uramoto.

Claim 1 as amended recites: a "method of decoding digital audio data, comprising the steps of: ... preprocessing the input sequence of data elements by calculating an array of sum data and an array of difference data ...; calculating a first sequence of output values using the array of sum data; calculating a second sequence of output values using the array of difference data; and forming decoded audio signals from the first and second sequences of output values." Claim 11 as amended similarly recites: "[a] synthesis sub-band filter for use in decoding digital audio data, comprising: means for receiving or retrieving an input sequence of data elements comprising encoded digital audio data; pre-calculation means for calculating an array of sum data and an array of difference data using selected data elements from the input sequence; and transform calculation means for calculating a first sequence of decoded output values using said array of sum data and a second sequence of decoded output values using said array of difference data."

The portions of de Sousa and Uramoto to which the Examiner points do not teach or suggest a method of decoding digital audio data, as recited. To the extent either addresses decoding, a different method is taught. Specifically, de Sousa does not address decoding except in a conclusory form (*i.e.*, de Sousa in one paragraph notes that the “decoder has a very simple structure” but provides no details on the structure of the decoder or the methods employed). See Figure 12 of de Sousa and the terse description thereof on page 17, lines 34-39. Further, the Examiner states that de Sousa “does not disclose the way the processing of the input data is performed.” The portion of Uramoto to which the Examiner points teaches using the discrete cosine transform (DCT) for *encoding*. See Figure 5 of Uramoto and the accompanying description thereof on page 8, lines 15-37. Uramoto teaches using the inverse discrete cosine transform (IDCT) for decoding, which teaches post-processing “a sum and a difference between intermediate data.” In other words, intermediate multiplication of the input occurs and it is the intermediate data that is subjected to addition and subtraction. See, *e.g.*, the description of Figure 11 of Uramoto and the accompanying description thereof on page 10, line 48 through page 12, line 22. Accordingly, Uramoto teaches away from the claimed invention. Thus, the combination of de Sousa and Uramoto does not teach or suggest decoding digital audio data by “preprocessing the input sequence of data elements by calculating an array of sum data and an array of difference data ...; calculating a first sequence of output values using the array of sum data; calculating a second sequence of output values using the array of difference data; and forming decoded audio signals from the first and second sequences of output values” as recited.

Accordingly, claims 1 and 11 are not rendered obvious by the combination of de Sousa and Uramoto. Claims 2-6, and new claims 18 and 19, depend from claim 1, and therefore are allowable over de Sousa and Uramoto for at least the same reasons as claim 1.

The Examiner rejected claims 8-10 under 35 U.S.C. § 103(a) as obvious over Uramoto in view of ISO Standard 11172.3. Applicants respectfully traverse the Examiner’s contention that claims 8-10 are rendered obvious by Uramoto in view of ISO Standard 11172.3.

Claim 8 recites: “[a] method of decoding ... input digital audio data samples ... comprising the steps of: ... calculating an array of sum data ... [;] calculating an array of

difference data ... [;] calculating a first output audio data sample by a multiply-accumulate operation ... [;]calculating a second output audio data sample by a multiply-accumulate operation according.” The Examiner again points to the description of Figure 5 of Uramoto, which describes an *encoder*. As discussed above, Uramoto teaches away from the claimed invention by describing the use of a different method of decoding. See, *e.g.*, the description of Figure 11 of Uramoto. Further, one would not be motivated to combine the inverse modified discrete cosine transform (IMDCT) with Uramoto, which as discussed above teaches the DCT for encoding and the IDCT for decoding.

Accordingly, claim 8 is not rendered obvious by Uramoto in view of ISO Standard 11172.3. Claims 9 and 10, and new claim 20, depend from claim 8 and are not rendered obvious by Uramoto in view of ISO Standard 11172.3 for at least the same reasons as claim 8.

The Examiner rejected claims 12 and 13 under 35 U.S.C. § 103(a) as obvious over de Sousa in view of Uramoto and ISO Standard 11172.3. Applicants respectfully traverse the Examiner’s rejection.

Claims 12 and 13 depend from claim 11. As discussed above, claim 11 is not rendered obvious by the combination of de Sousa and Uramoto. The Examiner does not contend the limitations of claim 11 missing from de Sousa and Uramoto as discussed above are taught or suggested by ISO Standard 11172.3. Accordingly, Applicants respectfully submit that claims 12 and 13 are not rendered obvious by de Sousa in view of Uramoto and ISO Standard 11172.3.

New claim 14 recites “[a]n MPEG decoder comprising: means for receiving an input sequence of data elements comprising encoded digital audio data; means for calculating an array of sum data and an array of difference data using selected data elements from the input sequence; and means for calculating a first sequence of decoded output values using said array of sum data and a second sequence of decoded output values using said array of difference data.” Thus, new claim 14, as well as new claims 15-17 that depend from claim 14, are allowable over the cited art for the same reasons that claims 11-13 are allowable over the cited art. Support for new claims 14-17 is contained in the specification as originally filed.

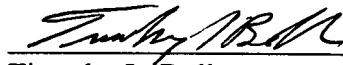
See Figure 2 and the description thereof in the Specification. No new matter has been introduced.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC



Timothy L. Boller
Registration No. 47,435

TLB:jr

Enclosure:
Postcard

701 Fifth Avenue, Suite 6300
Seattle, Washington 98104-7092
Phone: (206) 622-4900
Fax: (206) 682-6031

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